

# For More Information

There are a number of ways for the public to learn about the site. Documents relating to the site will be placed in an Information Repository at the Eureka Library and on the following web pages:

 [www.epaosc.net/eurekasmelter](http://www.epaosc.net/eurekasmelter)  
[www.ndep.nv.gov/eurekasmelter](http://www.ndep.nv.gov/eurekasmelter)

# Agency Contacts

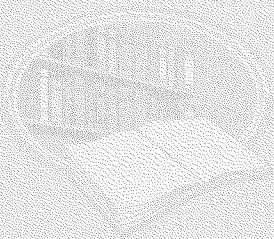
NDEP and EPA have staff available to answer questions you might have.

## NDEP Contacts:

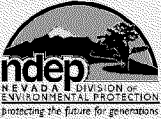
**Jeff Collins**  
Supervisor  
Nevada Division of  
Environmental Protection  
901 S. Stewart Street,  
Suite 4001  
Carson City, NV 89701  
(775) 687-9381  
[jrcollins@ndep.nv.gov](mailto:jrcollins@ndep.nv.gov)

## EPA Contacts:

**Tom Dunkelman**  
EPA On Scene Coordinator  
U.S. Environmental  
Protection Agency  
901 S. Stewart Street,  
Suite 4001  
Carson City, NV 89701  
(775) 721-4712  
[dunkelman.tom@epa.gov](mailto:dunkelman.tom@epa.gov)



Printed on 30% Postconsumer Recycled/Recyclable Paper



# Town of Eureka Historic Smelters



0DUFK 2

# NDEP AND EPA OFFER FINAL ROUND OF SOIL TESTING

Request for Property Access and Results of  
October 2012 Soil Testing Enclosed

# Introduction

The Nevada Division of Environmental Protection (NDEP) and the U.S. Environmental Protection Agency (EPA) are evaluating the potential human health and environmental effects of residual materials from historic lead smelting activity in Eureka, Nevada. NDEP and EPA conducted initial sampling in the spring of 2012 by testing weathered slag piles and bare soil for concentrations of lead and arsenic throughout Eureka. In several areas, the laboratory reported lead and arsenic concentrations in Eureka at or above EPA screening levels. As a result, NDEP and EPA recommended additional investigation to evaluate and address potential human health effects.

In October of 2012, NDEP and EPA conducted additional sampling for lead and arsenic in soil. As part of this sampling effort, more than 1,200 soil samples were collected from privately and publicly owned parcels, including the Eureka School District properties, residential properties, vacant properties, commercial properties and BLM land.

The purpose of this Fact Sheet is to:

- announce that additional soil sampling will be offered for free
- briefly describe the results of the October 2012 sampling effort
- describe steps you can take to minimize your exposure to lead and arsenic in soil, and
- recommend steps for managing lead and arsenic impacted soil

## Final Soil Sampling Request

NDEP and EPA received permission to sample about one quarter of the properties in town of Eureka, Nevada, in October 2012. Given the results of that sampling event, EPA and NDEP believe it is critical to sample as many properties as possible, particularly those in close proximity to smelter and mill sites.

NDEP and EPA are requesting permission to sample your property during the final sampling event we are offering this spring. NDEP will also be going door to door in the near future to discuss lead and arsenic concentrations in town, answer any questions you have and request access to your property for the spring sampling event.

### Steps You Can Take to Minimize Your Exposure to Lead and Arsenic in Soil

In the meantime, if you have concerns about lead and arsenic soil contamination, there are steps you can take to reduce your risk of exposure. These include the following:

- Discourage children, especially young children, from playing in bare dirt areas. The soil and dust can stick to their hands and toys and can be swallowed when they put them in their mouths.
- Wash your hands frequently; again paying special attention to young children's hands and toys.
- Keep fingernails short to prevent accumulation of dirt under the nails.
- Wash family pets often.
- Place mats at the front and back doors to prevent soil from being tracked through the house. Remove your shoes before entering your house.
- Mop and dust your home frequently.
- Carefully rinse any locally grown fruits or vegetables.

Included in this mailing is a letter requesting access to your property if you did not have your property sampled in October, an access agreement for your consideration and signature, and a more detailed summary of the analytical results from the October 2012 sampling event. The next section describes sampling activities.

***\*\*Please refer to the enclosed letter and access agreement for permission to sample your property***

## Brief Summary of October 2012 Sampling Event

NDEP and EPA staff collected more than 1,200 samples during the October 2012 sampling event. For purposes of the sampling event, each property was divided into separate sampling areas. These areas varied by property, but typically consisted of front yards, back yards, side yards, etc. Within each sampling area, soil samples were collected from three different depth intervals: 0-2 inches, 2-6 inches and 6-12 inches. Two types of samples were collected during this sampling event; composite samples and point samples. Composite samples were collected and analyzed to provide an average lead and arsenic result for each depth interval within each sampling area. In some instances where a garden or play area was present, a single point sample may have been collected at each depth interval. On larger, vacant properties, NDEP and EPA relied on point sampling, rather than composite sampling.

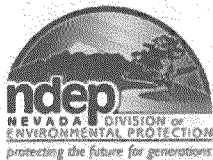
NDEP and EPA identified 400 parts per million (ppm) for lead and 60 ppm for arsenic as preliminary screening levels for residential property where further evaluation may be warranted. However, these are not necessarily levels that would warrant further action in Eureka. Development of specific action levels for lead and arsenic in Eureka soils will take into account naturally occurring lead and arsenic background concentrations, other environmental factors, and additional lab analyses that determine the amount of lead and arsenic that is available to be absorbed and retained by people. At this time we plan to have recommended lead and arsenic action levels for residential soils in March 2013.

***\*\*Please refer to the enclosed insert for more specific information regarding the October 2012 sampling event.***

## Recommended Steps for Managing Lead and Arsenic Impacted Soil

- **Processing Soil Material for Fill.** Limit the distribution of soil material originating in the Town of Eureka for use as backfill on other properties. It is recommended that soil from properties in town be analyzed for lead and arsenic prior to receiving it as fill material for your project.
- **Excavation and construction.** Store disturbed soil or other material securely contained on and covered with a durable non-permeable tarp to prevent the leaching of contaminated material onto or into the surface soil. Prevent soil from being removed or tracked off-site.
- **Dust suppression.** Keep soil moist during movement to minimize the creation and release of dust and other particulates into the air.
- **Vegetable and flower gardening or cultivation** Use raised garden beds consisting of at least 12" of uncontaminated soil.
- **Limit erosion.** Maintain property in a manner to minimize erosion, including adequate provision for drainage and surface water run-off so as to prevent the formation of standing pools, ditches or gullies.





STATE OF NEVADA  
Department of Conservation & Natural Resources  
DIVISION OF ENVIRONMENTAL PROTECTION  
901 South Stewart Street  
Carson City, NV 89701

UNITED STATES ENVIRONMENTAL  
PROTECTION AGENCY  
REGION IX  
901 South Stewart Street  
Carson City, NV 89701



February 27, 2013

RE: Town of Eureka Historic Smelters – Continued Evaluation of Lead and Arsenic in Soil

Dear Eureka Residents and Property Owners:

As part of our continued evaluation of the potential health impacts associated with lead and arsenic in soil in Eureka, the Nevada Division of Environmental Protection (NDEP) and the Environmental Protection Agency (EPA) are requesting permission to access your property for a final sampling event this spring. If you provided access to your property for the October 2012 sampling event, we appreciate your assistance, but you will not need to provide access again. Localized high concentrations of lead and arsenic in town soil may pose a risk of exposure and a potential health concern, so blood lead testing and taking proper behavioral precautions are encouraged.

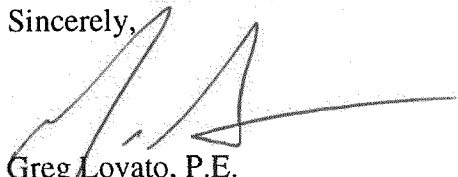
Because high concentrations of lead and arsenic in the soil still pose a potential public health concern, property owners are also encouraged to have their soil tested. By having your soil tested, you will know for certain whether or not your property has been affected. If high concentrations of lead and arsenic are found to present an unacceptable risk of exposure, there will be an opportunity to have your property evaluated for cleanup. If you would like to have your property sampled, please sign the attached access agreement and return it in the prepaid envelope by March 15, 2013. The agreement will be effective from April 1, 2013 through May 31, 2013 and only covers sampling activities to be conducted during that timeframe.

Sample collection will take about one hour and you will not need to be present. Although it is not necessary to be present, property owners may make arrangements to observe sample collection. Small scoops of soil will be taken from three different depths to a total depth of 12 inches. Only hand tools will be used to collect samples and all holes will be backfilled. Results of sampling will be mailed to you approximately six to eight weeks after all sampling is completed.

Under EPA's "Policy Towards Owners of Residential Property at Superfund Sites," EPA will not require residential property owners to clean up their property or pay to have it cleaned up unless the residential property owner's action led to the release or threatened release of hazardous substances at the site or the residential property owner fails to cooperate with EPA's response actions. Based on the information that is currently available, neither EPA nor NDEP is aware of any instances where a current residential property owner took actions that led to a release or threatened release since smelter waste was originally deposited in the late 1800s. However, if you still have questions or concerns about a specific property, we encourage you to call us.

As always, if you have any questions regarding soil sampling or cleanup, please contact Jeff Collins at 775-687-9381, Tom Dunkelman at 775-721-4712 or Greg Lovato at 775-687-9373 or by email at [jrcollins@ndep.nv.gov](mailto:jrcollins@ndep.nv.gov), [dunkelman.tom@epa.gov](mailto:dunkelman.tom@epa.gov) or [glovato@ndep.nv.gov](mailto:glovato@ndep.nv.gov).

Sincerely,



Greg Lovato, P.E.  
Chief, Bureau of Corrective Actions  
NDEP



Tom Dunkelman  
On-Scene Coordinator  
US EPA Region 9



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX  
901 South Stewart St., Suite 4001  
Carson City, NV 89701

ACCESS AGREEMENT

I \_\_\_\_\_, am the owner of record of the following described property:  
(please print)

Parcel located at: \_\_\_\_\_ in the Town of Eureka.  
(address)

(If access is being granted for additional properties, please list below.)

I, the owner of the property(ies) listed above, hereby consent to officers, employees, authorized representatives, contractors and agents of the United States Environmental Protection Agency (EPA) entering and having access to my property for the following purposes:

[X] The collection of surface and subsurface soil samples on my property.

The agreement is effective for the period April 1, 2013 through May 31, 2013 and covers EPA sampling activities to be conducted during that time-frame. In order to assure your property will be sampled during this time-frame, please submit a signed access agreement to be received by EPA no later than **March 15, 2013**. EPA expects that sampling your property will take no more than one hour. EPA anticipates conducting sampling beginning the week of April 8, 2013.

I understand that these actions by EPA are undertaken pursuant to its responsibilities under the Comprehensive Environmental Response, Compensation and Liability Act (Superfund), as amended, 42 U.S.C. Section 9601 et. seq. and will be conducted at no cost to me. This written permission is given by me voluntarily with knowledge of my right to refuse and without threats or promises of any kind. I am authorized to make this grant of license.

The full text of this document, as well as several other related documents, can be found at the following web page:  
[www.epaossc.org/eurekasmelter](http://www.epaossc.org/eurekasmelter)

I understand that questions regarding the sampling can be addressed by calling Tom Dunkelman, EPA On-Scene Coordinator at (775) 721-4712. I also understand that should I have any legal questions concerning the actions taken on my property by EPA that I may contact Larry Bradfish, EPA Assistant Regional Counsel, at (415) 972-3934.

Please sign this access form in the space provided below and return to EPA at the following address: Tom Dunkelman, 901 South Stewart Street, Carson City, NV 89701. You can also fax the form to (775) 687-8335.

\_\_\_\_\_  
Property Owner Contact Name (please print)

\_\_\_\_\_  
Contact Phone Number

\_\_\_\_\_  
Property Owner Mailing Address

\_\_\_\_\_  
City/State/Zip Code

\_\_\_\_\_  
Property Owner Signature

\_\_\_\_\_  
Date

## RESULTS OF OCTOBER 2012 SAMPLING EVENT

A report summarizing the results of the October 2012 sampling effort will be available shortly. A copy of this report will be placed in the Eureka library and will also be available on the two web pages identified at the end of the Fact Sheet.

EPA and NDEP staff collected more than 1,200 samples during the October 2012 sampling event. In addition to the private properties sampled, EPA and NDEP also collected background samples in order to determine naturally occurring levels of lead and arsenic in the vicinity of Eureka. Soils samples were collected within a one mile radius of town, in order to determine whether aerial deposition from smelter stacks had occurred. Soil samples were also collected from several dirt roads within town to evaluate whether the roads could be a source of dust containing lead and arsenic. Finally, soil and water samples were also collected from the stream, which runs through the center of town.

### Background Sampling Results

A total of 66 background soil samples were collected at locations ranging from three to twelve miles outside of town. Locations were selected that were considered to be outside the range of potential impact from the smelters, but close enough that geologic conditions should be similar. Background lead concentrations ranged from 17 to 129 parts per million (ppm), with an average of 60 ppm. All background lead concentrations were significantly below the site screening level of 400 ppm. Background arsenic concentrations ranged from 10 to 63 ppm, with an average of 40 ppm. All background arsenic concentrations were below the site screening level, with the exception of the samples from one location which approached, and in one case, slightly exceeded the site screening level of 60 ppm.

### Eureka School District Property Sampling Results

A total of 135 soil samples were collected from current Eureka School District properties, including the High School, High School Athletic Complex (football field vicinity), Elementary School and former District School. At the High School, High School Athletic Complex and Elementary School properties, levels of lead and arsenic in soil were generally below the site screening levels in developed areas of these properties. EPA and NDEP believe this is due to cut and fill activities performed during construction of these properties. There were some undeveloped areas on School District properties where it appeared that cut and fill activities did not occur, and lead and arsenic concentrations in soil were above the site screening levels. Similarly, at the High School, there were several soil stockpiles where lead and arsenic concentrations exceeded the site screening levels.

At the former District School property, lead and arsenic soil concentrations in the field and playground to the west of the former school building were generally below the site screening levels. However, there were locations on the north and east side of the building where lead and arsenic concentrations in soil exceed the site screening levels.

### Aerial Dispersion Sampling Results

A total of 72 samples were collected from 36 locations on undeveloped property located on the perimeter of town. The purpose of these samples was to determine whether aerial deposition of lead and arsenic from the historic smelter stacks had occurred. These samples were collected



at two depth intervals: 0-2 inches and 2-6 inches. The concentrations of lead and arsenic in the 0-2 inch depth interval were generally two to three times higher than the concentrations in the 2-6 inch depth interval, suggesting that aerial deposition had occurred. The lead and arsenic concentrations were generally significantly higher to the north of the smelter locations (up to 5,500 ppm lead and 1,100 ppm arsenic); again suggesting that aerial deposition had occurred, as the predominant wind direction is from south to north.

#### Private Property Sampling Results

EPA and NDEP collected more than 800 samples from 95 privately owned properties. The majority of the properties were residential parcels; however, there were a few commercial and vacant parcels sampled as well. Each property owner who gave permission to have their property sampled has been sent a letter explaining their individual soil sampling results. EPA and NDEP also attempted to contact each property owner by phone, to explain the results.

Based on the results from all private properties sampled during this investigation, lead concentrations range from 29 ppm to 20,000 ppm and arsenic concentrations range from 9.0 ppm to 4,100 ppm. Approximately 85% of the private properties sampled had concentrations of lead and arsenic in the soil above the screening levels of 400 ppm and 60 ppm, respectively.

EPA and NDEP generally found elevated levels of lead and arsenic throughout most of the town. A notable exception to this is the more recently constructed subdivision properties north of Archimedes along Sheridan Street and Ridgetop Road at the north end of town, where the vast majority of lead and arsenic results were below screening levels. It is believed that a significant amount of cut and fill activities associated with construction of these properties may explain the lower lead and arsenic levels found.

The soil sampling results for lead and arsenic are depicted in Figures 1 and 2, attached. As you can see, there are specific areas of town that exhibit elevated lead and arsenic concentrations in soil. In particular, the northern and southern portions of town, which are in close vicinity to and downwind from several of the former smelter sites, generally have higher levels of lead and arsenic.

#### Stream Sampling Results

A total of 45 sediment samples were collected from 15 locations along the stream bed. Elevated concentrations of lead and arsenic were found in the vicinity of and downstream from the two large slag piles. Three water samples were collected from the stream, and all three samples exceeded the EPA Primary Drinking Water Standard of 10 parts per billion (ppb) for arsenic, while one sample exceeded the EPA Primary Drinking Water Standard of 15 ppb for lead.

#### Roadway Sampling Results

A total of nine samples were collected from unpaved public roads in town. With the exception of two samples, all results were below the site screening levels for lead and arsenic.